Opening up Textbook Questions – Math Campppers ideas

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| Course | Text Reference | Question(s) | More Open Question |
| MCR3U | Functions 11 (Nelson)  page 336 | 1. Use differences to identify the type of function represented by the table of values.  |  |  | | --- | --- | | x | y | | -5 | 32 | | -4 | 16 | | -3 | 8 | | -2 | 4 | | -1 | 2 | | 0 | 1 | | **Option 1:**  Name 3 methods you could use to identify the type of function represented by the table of values. Choose one to identify the type of function.   |  |  | | --- | --- | | x | y | | -5 | 32 | | -4 | 16 | | -3 | 8 | | -2 | 4 | | -1 | 2 | | 0 | 1 |   **Option 2:**  Describe the relationships given in the tables.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | x | y |  | x | y | | -5 | 32 |  | -3 | 0.25 | | -4 | 16 |  | -2 | 0.5 | | -3 | 8 |  | -1 | 1 | | -2 | 4 |  | 0 | 2 | | -1 | 2 |  | 1 | 4 | | 0 | 1 |  | 2 | 8 |   Compare and contrast the relationships. |
| page 310 | 1. Prove that | Use the expression to create as many trigonometric identities as you can. |

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| MCF3M | Functions and Applications (McGraw-Hill Ryerson)  page 117  page 336 | 1.Consider this growing pattern of squares:    Which of these patterns (colours) is growing as a:   * 1. quadratic function?   2. Linear function?   Explain your thinking. | Given the diagrams below, describe growing patterns you see. Explain your thinking. |
| 1. Use first differences, second differences, and/or ratios to classify each relation as linear, quadratic, exponential, or none of these.  |  |  | | --- | --- | | **x** | **y** | | -3 | 16 | | -2 | 8 | | -1 | 4 | | 0 | 2 | | 1 | 1 | | 2 | 0.5 | | 3 | 0.25 | | Describe the relationships given in the tables.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | x | y |  | x | y | | -5 | 32 |  | -3 | 0.25 | | -4 | 16 |  | -2 | 0.5 | | -3 | 8 |  | -1 | 1 | | -2 | 4 |  | 0 | 2 | | -1 | 2 |  | 1 | 4 | | 0 | 1 |  | 2 | 8 |   Compare and contrast the relationships. |

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| MBF3C | McGraw-Hill practice quizzes on website | 1. Find the measure of the indicated side in the triangle shown to the nearest tenth of a km.  FFCM11_KeyQuiz1_4_question2 | The measure of B is less than 45°. What might be the measure of side b? |
| MHF4U | Advanced Functions  (Nelson)  page 321 #5 | 1.   1. Determine the measure of the central angle that is formed by an arc length of 5 cm in a circle with radius of 2.5 cm. Express the measure in both radians and degrees, correct to one decimal place. 2. b. Determine the arc length of the circle in part a) if the central angle is 200° | a) Select a value for *a* and *r*. Calculate θ  b) Does your angle seem reasonable given the picture? |
| page 417 #8 | 1. Prove that | Find an equivalent expression for  Swap with a partner and test their expression. |
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| MCV4U | Calculus and Vectors  (Nelson)  page 29 #1 | 1. The velocity of an object is given by . At what times, in seconds, is the object at rest? | The velocity of an object is modelled by a quadratic function. When will the object be at rest? |
| The vectors [2,3] and [4,6] are equivalent vectors. Find two more. | The fractions , and are equivalent fractions.  The vectors [2,3] and [4,6] are equivalent vectors. compare and contrast the concepts of equivalent fractions and equivalent vectors. |
| MDM4U | The Mathematics of Data Management (Nelson)  page 262 #4  Mathematics of Data Management (McGraw-Hill Ryerson)  page 312 # 7 | 1. A bag contains 10 red jellybeans and 8 black jellybeans.   1. Determine the number of ways that 2 jellybeans can be chosen from the 18 that are in the bag. 2. Determine the number of ways that 2 red jellybeans can be chosen. 3. What is the probability that two jellybeans selected at random are red? | A bag contains two different colours of jellybeans. If there are more jellybeans of one colour than the other, in how many ways can you choose some jellybeans of the same colour? What assumptions have you made? |
| 1. A game involves rolling two dice. Player A wins if the throw totals 5, 7 or 9. Player B wins if any other total is thrown. Which player has the advantage? Explain. | A game involves rolling two dice. Player A winds if the throw totals 5, 6, 9 or \_\_\_\_\_\_\_\_. Player B winds if any other total is thrown. Which player has the advantage? Explain.  *Scaffolding questions:*   * What techniques of strategies could you use to solve the problem? * What are the possible outcomes when you roll two dice? * Could you create a table to help you? |

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| MAP4C | Foundations for College Mathematics 12  (McGraw-Hill Ryerson)  page 13 #9 | 1. a. Give the missing dimensions for Marvin’s garden, shown below. Explain how you calculated these measures.     b. Determine the total area of Marvin’s garden to two decimal places.  c. A bag of topsoil costs $2.99 and will cover 3m². How much will it cost Marvin to cover his garden with a layer of topsoil? | Marvin has to build a garden with the shape shown above.  A bag of top soil costs $2.50 and will cover 4m2.  Marvin has $120 to spend on the top soil.  What are possible measurements for A and B? |